



Technical Data Sheet

ACS Material Covalent Organic Framework-LZU1 (COF-LZU1)

Table of Contents

[1 – Preparation Method](#)

[2 – Characterizations](#)

[3 – Application Fields](#)

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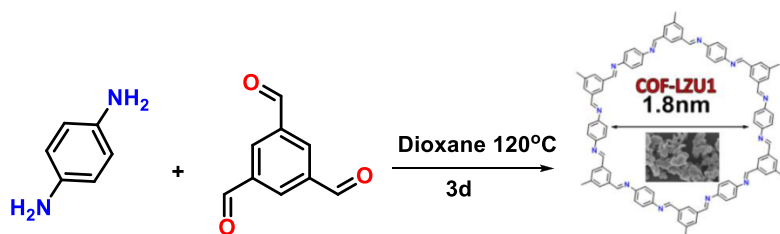
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Revision: 101017

1. Preparation Method

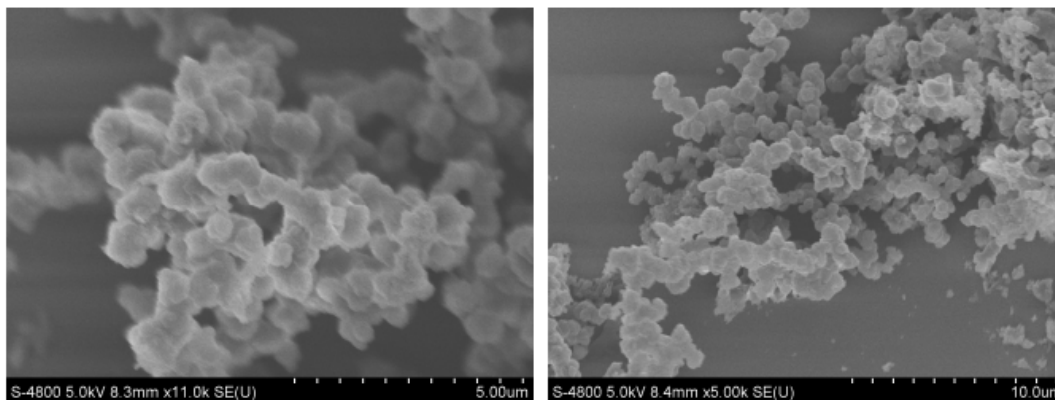
Type A: synthesized at room temperature and ambient atmosphere

Type B: Solvothermal synthesis

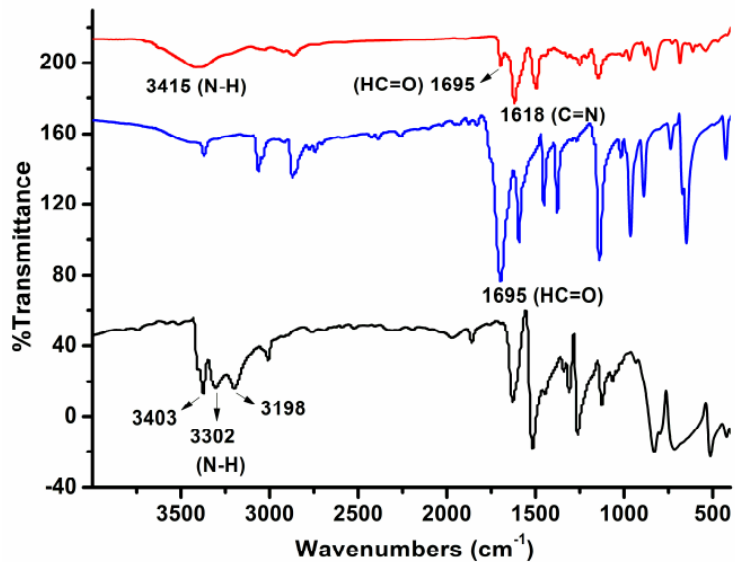


2. Characterizations

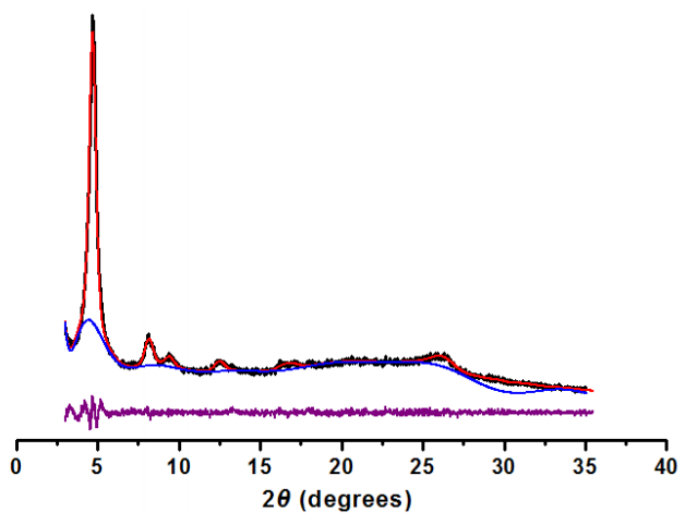
Form:	Powder crystal A two-dimensional planar material with one-dimensional channels
Solubility:	Insoluble in water or common organic solvents (N,N-dimethylformamide, tetrahydrofuran, dimethyl sulfoxide, acetone, trichloromethane)
Stability (Tg):	~310 °C
BET Surface Area:	Type A: 200-300 m ² /g Type B: ~500 m ² /g
Pore Size:	1.2 nm



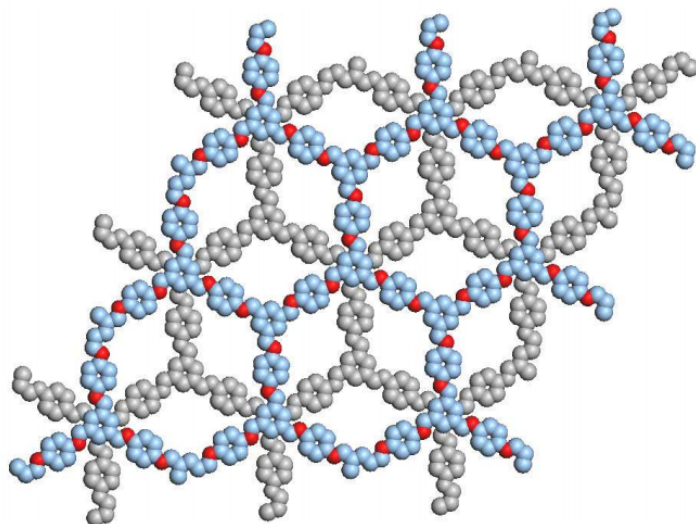
Typical SEM Image of ACS Material COF-LZU1



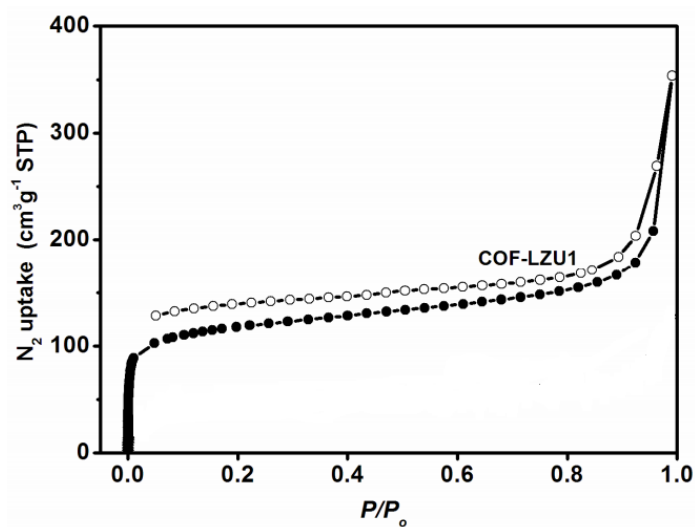
FT-IR spectra of ACS Material COF-LZU1 (red), 1,3,5-triformylbenzene 1 (blue), and 1,4-diaminobenzene 2 (black).



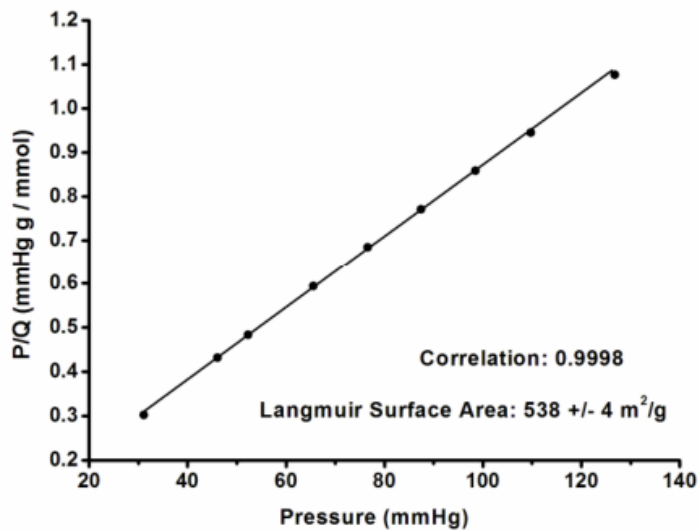
Observed (black) and refined (red) PXRD profiles of ACS Material COF-LZU1 with an eclipsed arrangement, background profile (blue) and difference plot (purple, observed minus refined).



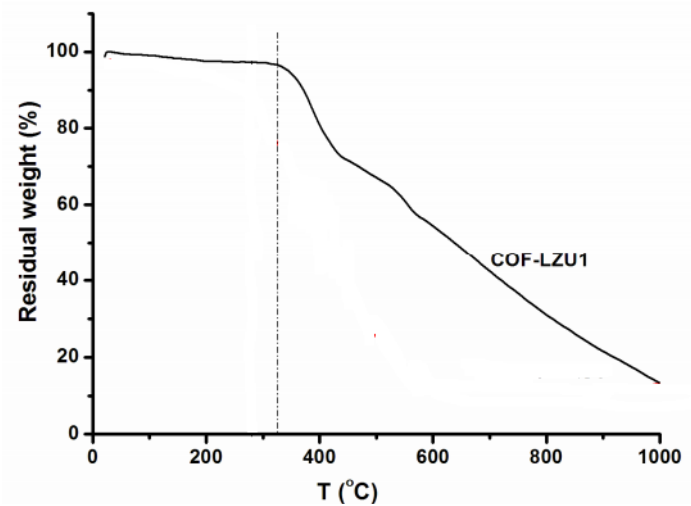
The architecture of ACS Material COF-LZU1 with a staggered arrangement
(For clarity, C blue and N red are shown only on the top layer, and H atoms are totally omitted.)



N₂ adsorption (filled symbols) and desorption (empty symbols) isotherms
of ACS Material COF-LZU1 (cycles)-Type B



Langmuir surface area plot for ACS Material COF-LZU1
calculated from the isotherm-Type B



TGA data of ACS Material COF-LZU1

3. Application Fields

- 1) Metal Coordination Catalysis
- 2) Recognition of metal ions
- 3) Bio-Detection
- 4) Electrochemistry
- 5) Crystallography
- 6) Separation chemistry

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